

AMENDMENTS TO THE CLAIMS

1. (original) Apparatus for use with a subject, comprising:

a memory, storing a set of computer instructions,

wherein the memory is adapted to have stored therein an initial form of a multi-phase biorhythmic activity pattern and an indication of a desired form of the multi-phase biorhythmic activity pattern,

wherein a ratio of durations of two phases in the desired form is different from a ratio of durations of the respective phases in the initial form, and

wherein at least one phase of the multi-phase biorhythmic activity pattern corresponds to a respective phase of a multi-phase biorhythmic activity of the subject; and

a stimulus unit, adapted to execute the stored instructions and to generate responsive thereto a time-varying stimulus that: (a) is substantially not responsive to ongoing measurement of the multi-phase biorhythmic activity during generation of the time-varying stimulus, and (b) has a multi-phase pattern that is characterized by a series of transitional forms intermediate the initial form and the desired form that guide the subject to modify the biorhythmic activity.

2-7. (canceled)

8. (original) The apparatus according to claim 1, wherein the memory is adapted to have stored therein the initial form and the indication of the desired form prior to use of the apparatus with the subject.

9-25. (canceled)

26. (previously presented) The apparatus according to claim 1, wherein the time-varying stimulus comprises music.

27. (Currently Amended) The apparatus according to claim 26, wherein the stimulus unit comprises a music synthesizer, ~~adajted~~ adapted to generate the music.

28. (previously presented) The apparatus according to claim 1, wherein the stimulus unit is adapted to generate a time-varying stimulus that is substantially not responsive to ongoing measurement of a physiological variable of the subject during generation of the time-varying stimulus.

29. (original) The apparatus according to claim 28, wherein the stimulus unit is adapted to generate a time-varying stimulus that is not responsive to a measurement of a physiological variable of the subject during use of the apparatus with the subject.

30. (previously presented) The apparatus according to claim 1, comprising a sensor, adapted to sense a physiological event and to generate an event signal responsive thereto,

wherein the apparatus is adapted to receive the event signal prior to generation of the time-varying stimulus by the stimulus unit, and

wherein the stimulus unit is adapted to commence generating the time-varying stimulus responsive to the event signal.

31-32. (canceled)

33. (previously presented) The apparatus according to claim 1,

wherein the memory is adapted to have stored therein a plurality of exercise routines having respective initial forms and respective indications of desired forms,

wherein the stimulus unit comprises a user interface, adapted to enable the subject to select one of the exercise routines, and

wherein the stimulus unit is adapted to generate the time-varying stimulus responsive to the selection.

34. (canceled)

35. (original) The apparatus according to claim 33, wherein the user interface comprises a user interface of an audio-playback device.

36. (original) The apparatus according to claim 33, wherein the user interface comprises a user interface of a general-purpose computer.

37-39. (canceled)

40. (previously presented) The apparatus according to claim 1, wherein the multi-phase biorhythmic activity includes respiration of the subject, and wherein the stimulus unit is adapted to configure the time-varying stimulus to guide the subject to modify the respiration.

41. (canceled)

42. (original) The apparatus according to claim 40, wherein two or more phases in the desired form include at least one respiration phase not generally included in the multi-phase biorhythmic activity prior to generating the time-varying stimulus, and wherein the memory is adapted to have stored therein an indication of the at least one respiration phase.

43. (Currently Amended) The apparatus according to claim 40, wherein two or more phases in the desired form include at least one respiration phase selected from the list consisting of: breath holding and post-expiratory pausing, and wherein the memory is adapted to have stored therein an indication of the selected respiration phase.

44-45. (canceled)

46. (original) The apparatus according to claim 40, wherein two or more phases in the initial and the desired forms include inspiration and expiration, and wherein the memory is adapted to have stored therein the initial form and the indication, wherein a ratio of a duration of the inspiration to a duration of the expiration (an I:E ratio) in the desired form is less than an I:E ratio in the initial form.

47. (canceled)

48. (previously presented) The apparatus according to claim 1, comprising a user interface, adapted to receive input from the subject, wherein the apparatus is adapted to store the initial form and the indication of the desired form in the memory, responsive to the input.

49-50. (canceled)

51. (original) The apparatus according to claim 48, wherein the user interface is adapted to receive an indication of durations of two or more phases in the initial form.

52. (canceled)

53. (original) The apparatus according to claim 48, wherein the user interface is adapted to measure a lapse between a start indication and an end indication of at least one of the phases in the indication of the initial form.

54. (original) The apparatus according to claim 53, wherein the start and end indications include respective audible indications of respiration of the subject, and wherein the user interface is adapted to sense the audible start and end indications.

55. (canceled)

56. (original) A method for use with a subject, comprising:

storing an initial form of a multi-phase biorhythmic activity pattern and an indication of a desired form of the multi-phase biorhythmic activity pattern,

wherein a ratio of durations of two phases in the desired form is different from a ratio of durations of the respective phases in the initial form, and

wherein at least one phase of the multi-phase biorhythmic activity pattern corresponds to a respective phase of a multi-phase biorhythmic activity of the subject; and

generating a time-varying stimulus that: (a) is substantially not responsive to ongoing measurement of the multi-phase biorhythmic activity during generation of the time-varying stimulus, and (b) has a multi-phase pattern that is characterized by a series of transitional forms intermediate the initial form and the desired form that guide the subject to modify the multi-phase biorhythmic activity.

57-62. (canceled)

63. (original) The method according to claim 56, wherein storing the initial form and the indication of the desired form comprises storing the initial form and the indication of the desired form prior to use of the method with the subject.

64. (original) The method according to claim 56, wherein the time-varying stimulus includes music, and wherein generating the time-varying stimulus comprises generating the music.

65-81. (canceled)

82. (previously presented) The method according to claim 56, wherein generating the time-varying stimulus comprises generating a time-varying stimulus that is substantially not responsive to ongoing measurement of a physiological variable of the subject during generation of the time-varying stimulus.

83. (canceled)

84. (previously presented) The method according to claim 56, comprising sensing, prior to generating the time-varying stimulus, a physiological event, wherein generating the time-varying stimulus comprises commencing generating the time-varying stimulus responsive to the sensing of the physiological event.

85-86. (canceled)

87. (previously presented) The method according to claim 56, wherein storing comprises storing a plurality of exercise routines having respective initial forms and respective indications of desired forms, and wherein generating the time-varying stimulus comprises selecting one of the exercise routines.

88. (canceled)

89. (original) The method according to claim 87, wherein selecting the one of the exercise routines comprises using a user interface of an audio-playback device to select the one of the exercise routines.

90. (original) The method according to claim 87, wherein selecting the one of the exercise routines comprises using a user interface of a general-purpose computer to select the one of the exercise routines.

91-93. (canceled)

94. (previously presented) The method according to claim 56, wherein the multi-phase biorhythmic activity includes respiration of the subject, and wherein generating the time-varying stimulus comprises configuring the time-varying stimulus to guide the subject to modify the respiration.

95-101. (canceled)

102. (previously presented) The method according to claim 56, wherein storing the initial form and the indication of the desired form comprises receiving an input from the subject.

103-106. (canceled)

107. (original) The method according to claim 102, wherein receiving the input comprises measuring a lapse between a start indication and an end indication of at least one of the phases in the indication of the initial form.

108. (original) The method according to claim 107, wherein the start and end indications include respective audible indications of respiration of the subject, and wherein measuring the lapse comprises sensing the audible start and end indications.

109. (canceled)

110. (original) A computer software product comprising a computer-readable medium, in which program instructions are stored, which instructions, when read by a computer, cause the computer to generate a time-varying stimulus that: (a) is substantially not responsive to ongoing measurement of a multi-phase biorhythmic activity of a subject during generation of the time-varying stimulus, and (b) has a multi-phase pattern that is characterized by a series of transitional forms intermediate an initial form of a multi-phase biorhythmic activity pattern and an indication of a desired form of the multi-phase biorhythmic activity pattern that guide the subject to modify the multi-phase biorhythmic activity,

wherein at least one phase of the multi-phase biorhythmic activity pattern of the time-varying stimulus corresponds to a respective phase of the multi-phase biorhythmic activity, and

wherein a ratio of durations of two phases in the desired form is different from a ratio of durations of the respective phases in the initial form.

111-116. (canceled)

117. (original) The product according to claim 110, wherein the computer-readable medium is adapted to have stored therein the initial form and the indication of the desired form prior to use of the product with the subject.

118. (original) The product according to claim 110, wherein the time-varying stimulus comprises music, and wherein the instructions cause the computer to generate the music.

119-135. (canceled)

136. (previously presented) The product according to claim 110, wherein the instructions cause the computer to generate a time-varying stimulus that is substantially not responsive to ongoing measurement of a physiological variable of the subject during generation of the time-varying stimulus.

137-140. (canceled)

141. (previously presented) The product according to claim 110,
wherein the computer-readable medium is adapted to have stored therein a plurality of exercise routines having respective initial forms and respective indications of desired forms,
wherein the computer has a user interface, and
wherein the instructions cause the computer to (a) receive, via the user interface, a selection by the subject of one of the exercise routines, and (b) generate the time-varying stimulus responsive to the selection.

142-145. (canceled)

146. (previously presented) The product according to claim 110, wherein the multi-phase biorhythmic activity includes respiration of the subject, and wherein the instructions cause the computer to configure the time-varying stimulus to guide the subject to modify the respiration.

147-168. (canceled)

169. (original) Apparatus for use with a subject, comprising:

a data storage medium comprising a plurality of arrangements of data, each arrangement corresponding to an output stimulus for guiding the subject to modify a multi-phase biorhythmic activity of the subject, the stimulus comprising a time-varying multi-phase pattern that is characterized by a series of transitional forms, intermediate an initial form of a

multi-phase biorhythmic activity pattern and a desired form of the multi-phase biorhythmic activity pattern,

wherein at least one phase of the time-varying multi-phase pattern corresponds to a respective phase of the multi-phase biorhythmic activity, and
wherein a ratio of durations of two phases in the desired form is different from a ratio of durations of the respective phases in the initial form;
and

a stimulus unit, adapted to generate the output stimulus corresponding to a selected arrangement.

170. (new) The apparatus according to claim 1, wherein the stimulus unit is adapted to generate the time-varying stimulus having the multi-phase pattern, wherein durations of the transitional forms in the series vary linearly over time.

171. (new) The apparatus according to claim 1, wherein the stimulus unit is adapted to generate the time-varying stimulus having the multi-phase pattern, wherein durations of the transitional forms in the series vary geometrically over time.

172. (new) The apparatus according to claim 1, wherein the time-varying stimulus comprises at least one stimulus selected from the list consisting of: an image, alpha-numeric text, a sound, a sound pattern, a dynamic graphical pattern, and a visual cue, and wherein the stimulus unit comprises a visual stimulator, adapted to generate the selected time-varying stimulus.

173. The apparatus according to claim 1, wherein the time-varying stimulus comprises pressure, and wherein the stimulus unit comprises a pressure applicator, adapted to apply the pressure to a portion of a body of the subject.

174. (new) The apparatus according to claim 30, wherein the apparatus is adapted to configure the initial form at least in part responsively to a parameter of the event signal.

175. (new) The apparatus according to claim 40, wherein the multi-phase biorhythmic activity of the subject is characterized by a rate of breathing, and wherein the memory is adapted to have stored therein the initial form and the indication of the desired form, wherein a rate of breathing in the desired form is different from a rate of breathing in the initial form.

176. (new) The apparatus according to claim 46, wherein the memory is adapted to have stored therein the initial form and the indication, wherein the I:E ratio in the desired form is between about 1:0.5 and 1:4.

177. (new) The apparatus according to claim 48, wherein the user interface is adapted to receive an indication of durations of two or more phases in the indication of the desired form.

178. (new) The apparatus according to claim 48, wherein the user interface is adapted to receive indications of trends over time of respective durations of two or more phases in the initial form.

179. (new) The apparatus according to claim 48, wherein the user interface is adapted to receive an indication of durations of two or more phases in the desired form.

180. (new) The apparatus according to claim 53, wherein the user interface is adapted to receive the start and end indications from the subject at respective times, and to measure the lapse responsive thereto.

181. (new) The method according to claim 56, wherein generating the time-varying stimulus comprises generating the time-varying stimulus having the multi-phase pattern, wherein durations of the transitional forms in the series vary linearly over time.

182. (new) The method according to claim 56, wherein generating the time-varying stimulus comprises generating the time-varying stimulus having the multi-phase pattern, wherein durations of the transitional forms in the series vary geometrically over time.

183. (new) The method according to claim 56, wherein the time-varying stimulus includes at least one stimulus selected from the list consisting of: an image, alpha-numeric text, a sound, a sound pattern, a dynamic graphical pattern, and a visual cue, and wherein generating the time-varying stimulus comprises generating the selected stimulus.

184. (new) The method according to claim 56, wherein the time-varying stimulus includes pressure, and wherein generating the time-varying stimulus comprises applying the pressure to a portion of a body of the subject.

185. (new) The method according to claim 82, wherein generating the time-varying stimulus comprises generating a time-varying stimulus that is not responsive to a measurement of a physiological variable of the subject during use of the method with the subject.

186. (new) The method according to claim 84, wherein storing the initial form comprises configuring the initial form at least in part responsively to a parameter of the physiological event.

187. (new) The method according to claim 94, wherein the multi-phase biorhythmic activity of the subject is characterized by a rate of breathing, and wherein storing comprises storing the initial form and the indication of the desired form, wherein a rate of breathing in the desired form is different from a rate of breathing in the initial form.

188. (new) The method according to claim 94, wherein two or more phases in the desired form include at least one respiration phase not generally included in the multi-phase biorhythmic activity prior to generating the time-varying stimulus, and wherein storing comprises storing an indication of the at least one respiration phase.

189. (new) The method according to claim 94, wherein two or more phases in the desired form include at least one respiration phase selected from the list consisting of: breath holding and post-expiratory pausing, and wherein storing comprises storing an indication of the selected respiration phase.

190. (new) The method according to claim 94, wherein two or more phases in the initial and the desired forms include inspiration and expiration, and wherein storing comprises storing the initial form and the indication, wherein a ratio of a duration of the inspiration to a duration of the expiration (an I:E ratio) in the desired form is less than an I:E ratio in the initial form.

191. (new) The method according to claim 192, wherein storing comprises storing the initial form and the indication, wherein the I:E ratio in the desired form is between about 1:0.5 and 1:4.

192. (new) The method according to claim 102, wherein receiving the input comprises receiving an indication of durations of two or more phases in the indication of the desired form.

193. (new) The method according to claim 102, wherein receiving the input comprises receiving indications of trends over time of respective durations of two or more phases in the initial form.

194. (new) The method according to claim 102, wherein receiving the input comprises receiving an indication of durations of two or more phases in the initial form.

195. (new) The method according to claim 102, wherein receiving the input comprises receiving an indication of durations of two or more phases in the desired form.

196. (new) The method according to claim 107, comprising receiving the start and end indications from the subject at respective times, wherein measuring the lapse comprises measuring the lapse responsive thereto.

197. (new) The product according to claim 110, wherein the instructions cause the computer to generate the time-varying stimulus having the multi-phase pattern, wherein durations of the transitional forms in the series vary linearly over time.

198. (new) The product according to claim 110, wherein the instructions cause the computer to generate the time-varying stimulus having the multi-phase pattern, wherein durations of the transitional forms in the series vary geometrically over time.

199. (new) The product according to claim 110, wherein the time-varying stimulus comprises at least one stimulus selected from the list consisting of: an image, alpha-numeric text, a sound, a sound pattern, a dynamic graphical pattern, and a visual cue, and wherein the instructions cause the computer to generate the selected time-varying stimulus.

200. (new) The product according to claim 110, wherein the time-varying stimulus comprises pressure, and wherein the instructions cause the computer to drive a pressure applicator to apply the pressure to a portion of a body of the subject.

201. (new) The product according to claim 136, wherein the instructions cause the computer to generate a time-varying stimulus that is not responsive to a measurement of a physiological variable of the subject during use of the product with the subject.

202. (new) The product according to claim 110, wherein the instructions cause the computer to:

receive an event signal, prior to generating the time-varying stimulus, from a sensor adapted to sense a physiological event and to generate the event signal responsive thereto, and

commence generating the time-varying stimulus responsive to the event signal.

203. (new) The product according to claim 202, wherein the instructions cause the computer to configure the initial form at least in part responsive to a parameter of the event signal.

204. (new) The product according to claim 146, wherein the multi-phase biorhythmic activity of the subject is characterized by a rate of breathing, and wherein the instructions cause the computer to generate the time-varying stimulus, wherein a rate of breathing in the desired form is different from a rate of breathing in the initial form.

205. (new) The product according to claim 146, wherein two or more phases in the desired form include at least one respiration phase not generally included in the multi-phase biorhythmic activity prior to generating the time-varying stimulus, and wherein the instructions cause the computer to generate the time-varying stimulus having an indication of the at least one respiration phase.

206. (new) The product according to claim 146, wherein two or more phases in the desired form include at least one respiration phase selected from the list consisting of: breath holding and post-expiratory pausing, and wherein the instructions cause the computer to generate the time-varying stimulus having an indication of the selected respiration phase.

207. (new) The product according to claim 146, wherein two or more phases in the initial and the desired forms include inspiration and expiration, and wherein the instructions cause the computer to generate the time-varying stimulus, wherein a ratio of a duration of the inspiration to a duration of the expiration (an I:E ratio) in the desired form is less than an I:E ratio in the initial form.

208. (new) The product according to claim 207, wherein the instructions cause the computer to generate the time-varying stimulus, wherein the I:E ratio in the desired form is between about 1:0.5 and 1:4.

209. (new) The product according to claim 110, wherein the computer has a user interface, and wherein the instructions cause the computer to receive input from the subject, via the user

interface, and to store the initial form and the indication of the desired form, responsive to the input.

210. (new) The product according to claim 209, wherein the instructions cause the computer to receive, via the user interface, an indication of durations of two or more phases in the indication of the desired form.

211. (new) The product according to claim 209, wherein the instructions cause the computer to receive, via the user interface, indications of trends over time of respective durations of two or more phases in the initial form.

212. (new) The product according to claim 209, wherein the instructions cause the computer to receive, via the user interface, an indication of durations of two or more phases in the initial form.

213. (new) The product according to claim 209, wherein the instructions cause the computer to receive, via the user interface, an indication of durations of two or more phases in the desired form.

214. (new) The product according to claim 209, wherein the instructions cause the computer to measure a lapse between a start indication and an end indication of at least one of the phases in the indication of the initial form.

215. (new) The product according to claim 214, wherein the start and end indications include respective audible indications of respiration of the subject, and wherein the instructions cause the computer to detect, via the user interface, the audible start and end indications.

216. (new) The product according to claim 214, wherein the instructions cause the computer to receive, via the user interface, the start and end indications from the subject at respective times, and to measure the lapse responsive thereto.

217. (new) The product according to claim 110, wherein the product is adapted to have stored therein a plurality of exercise routines having respective initial forms and respective indications of desired forms, and wherein the product further comprises an audio-playback device, adapted to enable the subject to select one of the exercise routines.